THE NAVAL SAFETY CENTER'S AVIATION MAGAZINE

approach

February 1999

Supersonic "Fly-Bye"

Watch Out for That Tree-e-e!

Some Call Me "Black Cloud"; Others Call Me "Scoop"

approach contents

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On the cover	A Seahawk in desert camouflage at Fallon. *Photo by Rick Llinares.*
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Risk-Cr

by Capt. Ivan Thomas

BECAUSE WE'D BEEN PART of a Marine Expeditionary Unit for six months, we were confident on the last night of our abbreviated MEU-Ex. Our mission—a company raid from a ship—started from MCAS New River an hour before sunset. It involved several aircraft but was kept simple.

A Huey headed out to the LHA first with the air-mission commander aboard. A section of CH-53Es launched just behind them to pick up 48 Marines from the LHA, then hold in the overhead delta. A flight of five CH-46Es then launched to pick up the rest of the force from the ship. Finally, two AH-1Ws flew to the LPD, then repositioned feet dry to arrive in the objective area 10 minutes before the transports.

Easy? Not quite. Although the weather grudgingly supported the mission with 1,000-foot ceilings, the fog was building, with visibility down to three or four miles and not-so-isolated thunderstorms rolling through the area. The LHA was in and out of rain 15-to-20 miles off the coast.

The CH-53Es got there just behind the Huey, picked up their Marines and pushed up to the overhead delta. Unable to hold at 1,000 feet because of a scattered layer, they opted for 700 feet. The ship was surrounded by rain with an obscured horizon to the east, when the five CH-46Es came in at 300 feet for the break to pick up their troops.

The break was textbook, but the visibility was so poor that pilots could only see one Phrog in front on the downwind. The LSE waved off Dash 1, then waved off the entire flight to keep the deck-spotting simple for loading the passengers. Bad idea!

Around the Phrogs went. There wasn't much of a horizon, and it was nearly dark. Dash 1, 2 and 3 Phrogs had landed after the waveoff. Dash 4 was on final when the pilot of the Dash 2 CH-53E holding overhead declared an emergency and requested an immediate landing. We all recognized his voice and could tell he was keeping his cool, but our anxiety levels still jumped. Dash 4 Phrog landed, and the pilot of Dash 5 said he would remain clear.

It seemed like forever, but we finally saw our CH-53E buddy break across the bow and head downwind. We breathed again when the aircraft with its precious cargo landed safely. That CH-53E's cyclic stick had frozen with the nose up about 12 degrees. The HAC had crossed over his lead and was climbing into IMC without any pitch control for about 10 seconds. The pilots had had it and shut down after landing.

Phew! We shook it off and went back to the mission.

It was dark and raining now with some hint of a horizon to the northwest along the coast. The Dash 5 Phrog finally got on deck, and the Marines climbed aboard. Everyone goggled up. The ship was still in and out of rainstorms and rolling just a bit. A brilliant lightning show appeared to the northwest.

...Dash 2 CH-53E holding overhead declared an emergency and requested an immediate landing. We all recognized his voice and could tell he was keeping his cool, but our anxiety levels still jumped.

The lone CH-53E was still holding, and our Cobra squadronmates, who were feet dry along the coast, reported the weather was workable.

The squadron CO sent the air-mission commander out to get a better look at the weather before launching the whole package. The intrepid Huey crew launched and made a left turn heading northwest, toward the objective area. Fifteen seconds later, the Huey declared an emergency. With no horizon and in driving rain, the pilot's attitude indicator had failed. This Huey continued back to New River and landed. Listening to them work through what appeared to be a partial-panel situation brought our anxiety level up a bit more.

OK, back in the saddle!

The Cobras again reported the weather workable ashore. Once again, our CH-53E was still holding overhead (how, I don't know) with its Marines, while the Phrogs sat on deck with their Marines. Ready to go?

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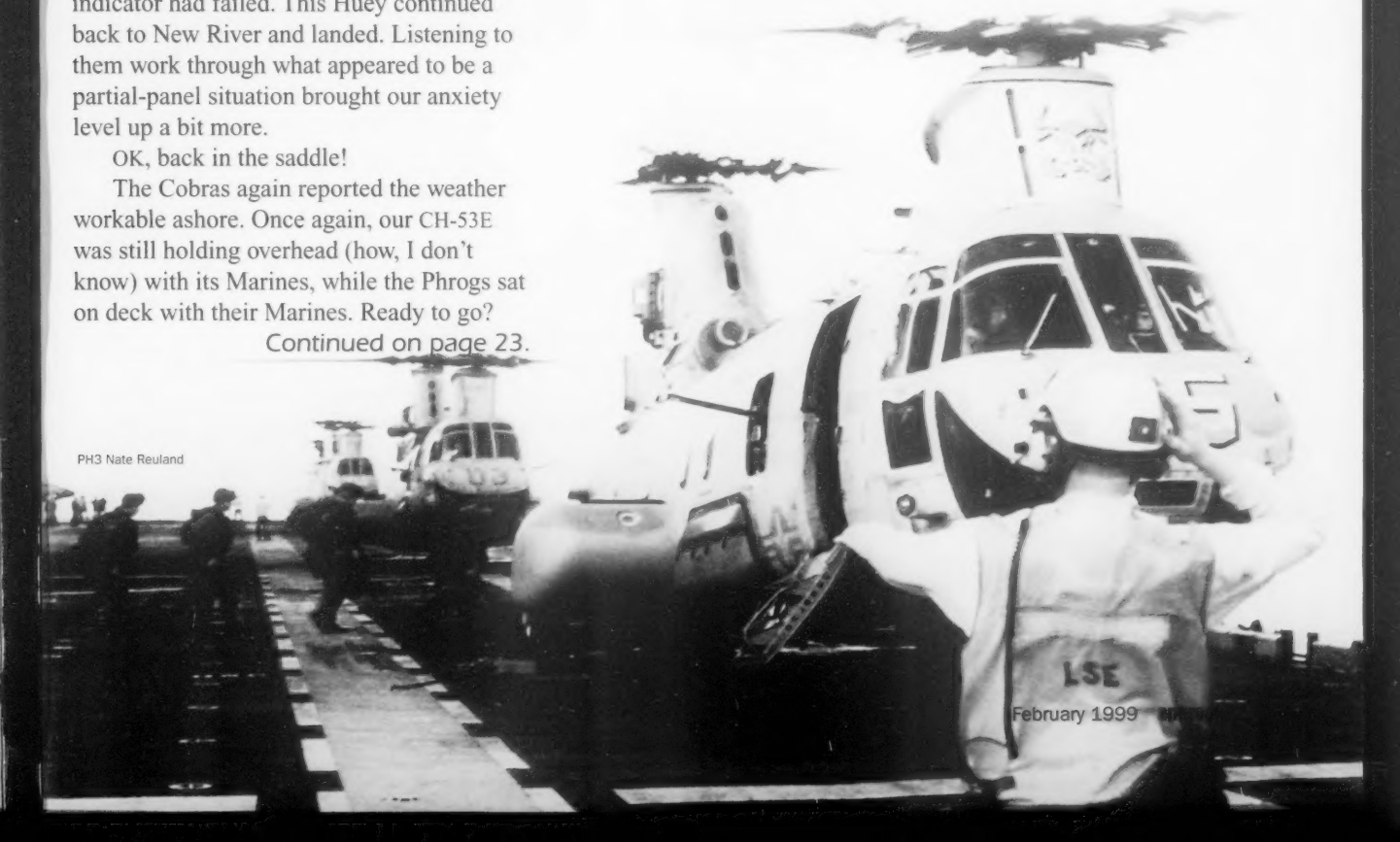


PH3 Nate Reuland

by Lt. Garrett V. Krause

As a nugget pilot on my first workup period, I knew I had a lot to learn about operating around the boat. Even the extra traps I'd gotten during my second look at the deck in the FRS couldn't have prepared me completely for the fleet. I was about to learn a lesson the hard way.

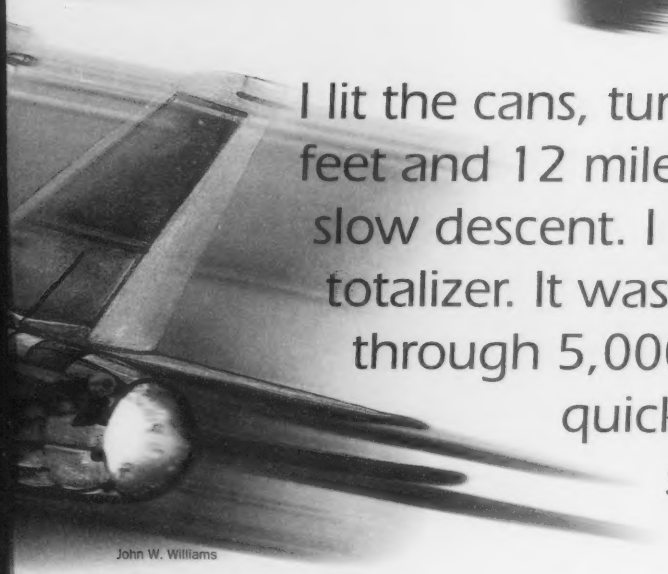
My RIO and I briefed in the back of the ready room. This hop would be exactly what I needed after a week and a half of flying as Dash 2 during the multi-plane exercises. I would be going out as a "raging single," alone and unafraid, and I would get the opportunity to relax, not fly formation, and do a little 1 v 0.

The mission called for a single aircraft to fly a missile profile toward a line of our battle group's ships. We would take off, then loiter at a holding point until called in by the controller. The ships were calling for only one or two runs, so I figured we would have more than half a bag of gas left to play with afterward.

The first thing my RIO and I discussed was doing a fly-by of the carrier. Earlier, a squadronmate had gotten permission for a supersonic fly-by from the Boss. The aircrew had wanted to one-up the Hornet pilots (who had tried and failed to do a supersonic fly-by). Practically the entire ship had been on the flight deck when the Tomcat didn't make the promised boom. If I had the time and fuel, I was going to redeem my squadron's dignity.

A thin layer of clouds hung in the east as our jet raced down the catapult track and

ly-Bye"



I lit the cans, turned in at 1,000 feet and 12 miles, and started a slow descent. I glanced at the totalizer. It was rolling down through 5,000 pounds more quickly than I had ever seen it roll before.

John W. Williams

leaped into the air. I was having the time of my life and felt invincible. I was Top Hook in my squadron, and I was feeling better and better about my landing performance every day. I thought I had it all figured out.

As we headed toward our holding point, the sequence of events unfolded exactly as planned. Our controller told us to hold 60 miles south of the lead ship and to expect a hot vector toward them in about five minutes.

When we arrived at the holding point, the voice on the radio told us there would be about a 15-minute delay so the ship could position itself.

"Great," I muttered. I figured this mission would have some problems, but I didn't think we'd hit a snag right off the bat. The 15-minute delay slowly developed into a 50-minute, autopilot-intensive, holding exercise. Did I mention we had launched on a 1+20 cycle? I was beginning to think the ship guys knew of my fly-by plans and were secretly trying to foil them.

We finally started our missile run 22 minutes before our scheduled recovery. Crossing the line of ships with only 10 minutes to recovery and on our fuel ladder, we were 70 nautical miles from mother. It was time to put our fuel to use. Racing home, my RIO and I took turns telling each other how much we enjoyed working with our surface-warrior partners. The delays had cost us any chance of doing the fly-by.

Checking in with tower at 10 miles, our fuel state was 8.0. All but two of the

scheduled recovery aircraft already were on deck. We were late. Just then, the Boss's voice came over the radio.

"One Oh Six, tower." But instead of an "expedite your recovery" call, they asked for a supersonic fly-by!

I was amazed and excited, but a glance at my fuel tapes brought me back to reality.

"I don't think we have enough gas for this," I told my RIO.

"Yeah, I think we'd be cutting it pretty short if we tried that," he replied. I ran the numbers over in my head. I figured it would take about 4,000 pounds to get about 10 miles behind the ship, turn and then accelerate up to the number. Bingo to North Island was set at 3.2, which would give us about two looks at the deck before having to divert. We advised the Boss, and he mentioned something about having a tanker ready for us just in case. From my perspective, it seemed like we were almost being told to do the fly-by.

"One Oh Six, tower, you are cleared for a supersonic pass, port side, stern to bow, altitude five hundred feet and below."

"One Oh Six," we acknowledged. That was all my RIO and I needed. We talked about it again for about five seconds, and that was it. I was feeling good about my landings, and so was my RIO. We'd be on deck in less than 10 minutes, heading to the forward wardroom for dinner, and we wouldn't think twice about our decision.

We crossed in front of the ship at two miles and 2,000 feet. I brought the throttles up to mil and headed outbound for about a 10-mile initial. I lit the cans, turned in at 1,000 feet and 12 miles, and started a slow descent. I glanced at the totalizer. It was rolling down through 5,000 pounds more quickly than I had ever seen it roll before.

At three miles, I was at 650 knots indicated, which is the external tank limit at sea level, and the mach indicator was showing 0.99.

"I can't go any faster," I said over the ICS. In the wink of an eye, the ship disappeared under my right intake. I immediately brought the throttles to idle, deployed the speed brakes, and started about a 5-G left break up to 600 feet. I was just going to turn downwind. The fuel tapes read 2,000 pounds a side. We had no time to depart and reenter. At an abeam position, I completed the landing checklist and started my approach turn.

"Working twenty-five knots, MOVLAS."

OK, I thought, just get to a good start, and you're set. As I rolled into the groove, the ball was showing me on glide path. My RIO was calling out 600 and 700 fpm VSI, and the meatball was not moving. In the middle, I started to feel high, but the ball was still showing me centered. In close, the ball started to rise, and I really felt high. I pulled a little power and mashed the DLC.

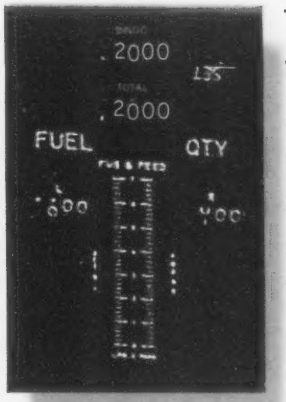
"Bolter, bolter, bolter," from the platform. I couldn't believe it. Airborne again, I immediately turned downwind.

"One Oh Six, tower, what is your state?"

"Three point eight," my RIO replied. We had to trap next pass, or we would be going to the tanker.

"Blue Wolf Seven Oh Two, hawk the Tomcat on downwind," I heard the Mini say as I completed my landing checks for the second time. Determined as ever, I started my approach turn again. I bumped my numbers down about 25 feet. I didn't want to work off a high that the LSOs were not seeing again.

I rolled into the groove with a ball sagging low. It felt like a good start. With "Six hundred" and "Seven hundred" coming from the back seat, I felt pretty good. The ball came back to center in the middle, and as I crossed the ramp, it started to rise slowly.



The fuel tapes read 2,000 pounds a side. We had no time to depart and reenter.

When I touched down, I knew I was in the wires, but the soothing tug I was expecting never came.

"Bolter, bolter, bolter."

"Why me?" I wondered as I lifted again.

"One Oh Six, your signal, tank." The voice of the Mini was unmistakable.

I got a tally on the tanker about a mile in front of me as I cleaned up and extended my refueling probe.

"One Oh Six, tower, say state."

"Three point four," my RIO called as we accelerated toward the S-3. I had to get in the basket as quickly as possible. I moved right into a pre-contact position, saw an amber light on the buddy store, and started my approach. We were at about 2,000 feet, and the basket was moving around more than I had ever seen. I missed the first stab. I was frustrated and tense. How did I get to this point?

"One Oh Six, tower, are you in the basket and receiving fuel?"

As I stabbed and missed one more time, my RIO replied negative.

"One Oh Six, your signal, divert. Pigeons zero eight six, one hundred six miles, NAS North Island."

I immediately cleared the tanker, cleaned up, and accelerated to my climb speed. The S-3 had rolled out on the bingo course for us, so we already were heading in the right direction. As I started my climb, I remembered how I'd felt at the start of the day: "I'm feeling good about my performance out here" and "What a great day to go flying." We landed on runway 36 at North Island with exactly the 2,000 pounds of gas that the bingo profile advertised.

We returned two events later and trapped aboard for an OK 3-wire. After being the butt of a few "Foc'sle Follies" shots that night, my RIO and I sat down to discuss how and why we got ourselves into the circumstances we ended up in. We came to the same conclusions.

First, don't ever assume that you know how everything is going to happen around the boat. Missions get delayed or changed, weather suddenly turns bad, decks get fouled, and hooks skip wires—like mine did on my second pass. A know-it-all attitude is going to hurt you some day, and you are going to find yourself out of fuel, out of diverts, and out of options. I should never have taken trapping aboard for granted.

Second, when I signed the ADB for my jet, I took responsibility for it. My RIO and I promised to bring it back, and in one piece. Neither the Boss nor the Mini signed the turn-around card, and the captain and his VIPs weren't there, either. The crew of an aircraft should not let themselves get bullied into doing something they have reservations about. Even though we were thinking about doing the fly-by during the brief, we should not have gone ahead with it when we didn't think we had enough gas.

Don't let this happen to you. Something uglier than flying a bingo profile to the beach could result.

Lt. Krause flies with VF-31.

YOU WANT TO BE LIKE Superman?

by Virginia Rae Mack

ACTORS OFTEN PORTRAY QUADRIPLEGICS, who are paralyzed from the neck down, and paraplegics, who have the entire lower half of their body paralyzed. Except for having to sit in wheel chairs until the show ends, they look normal and have well-toned bodies. That's because they're actors and are playing parts. But one actor isn't playing a part. He is Christopher Reeve, perhaps the most famous quadriplegic in the world. Reeve, who brought Superman to life on the screen, is still broad-shouldered and handsome, still has muscular thighs and a full chest, and seeing him in a tuxedo sitting in his industrial-strength wheelchair, you may think that life for him is not so bad after all.

Think again.

Reeve has written a book titled *Still Me* that tells how his life changed drastically since May 27, 1995, when he fell from a horse during a jumping competition. For reasons he will never know, his horse, Buck, put on the brakes in midjump. The actor went flying over the horse's head, unable to break his fall because his hands were tangled in the reins.

Reeve was taken to the University of Virginia Hospital in Charlottesville, where doctors devised a never-before-performed operation to reattach his skull to his spinal column. He had what is called a hangman's injury—the same trauma produced by being dropped through a gallows trapdoor with a noose around your neck.

This kind of injury can happen if you dive in shallow water, get knocked down in waves, fall off a motorcycle, slam into the roof or windows of a car during a crash, or get ejected during a collision. Since 1993, 23 Marines and nine Sailors have suffered hangman's injuries and are quadriplegics or paraplegics.

Despite having the best available medical care, Reeve has been in shaky health since his fall. Eleven times he has returned to the hospital, often with life-threatening trouble: pneumonia, a collapsed lung, two blood clots, and an infection that nearly forced doctors to amputate part of his leg.

In his book, Reeve describes what his life is like as a quadriplegic. There are days when the ritual of getting up in the morning and getting in bed at night takes five hours.

A nurse and her aide appear at 8 a.m. and serve him 20 pills—vitamins plus drugs to control spasms, keep his bladder from shrinking, and maintain bowel function.

He sleeps in arm and foot splints, and after being in one position all night, his joints and muscles are frozen. His arms and legs go into wild spasms when the splints come off, and it takes the full power of the nurse and the aide to hold them down.

Then follows the morning hello from his 5-year-old son and an hour of so of "ranging"—the slow manipulation of his limbs by the nurse. This prevents atrophy, for as Reeve notes, you can't stand or walk with atrophied leg muscles. *[Reeve has vowed to walk again by the time he turns 50. That will happen in September 2002.]* After that, he's ready to be dressed. "When two

people have to roll you back and forth in order to put on your underpants at age 45, it's a difficult lesson in acceptance," he writes.

"I used to have to control my anger with myself for having ended up in this situation. Often I listen to music or watch TV so I don't have to think about being taken care of like a baby."

Frequently through the day, he blows into a little tube that's placed before his face. This causes the chair to shift his weight, helping prevent the ulcers that are a constant worry.

The nighttime ranging is almost pleasant after so many hours in the chair, but it is followed by perhaps the hardest part of the day: the "bowel" program.

"I'm turned on my side, and the aide pushes on my stomach with his fist to force stool down through the intestines and out onto plastic sheets placed under me. Sometimes it can take nearly an hour… It seems like an eternity."

Reeve takes a sedative to control nighttime spasms and finally drifts off to sleep.

That's how a privileged person with the resources to pay for round-the-clock nursing care at $40 an hour spends his days. That care costs him $960 a day, or $350,400 a year. He has three medical-insurance policies, one of which has run out. And his exercise equipment cost him more than $100,000.

The lance corporal who dove headfirst off a boat ramp into shallow water, the AO2 who dove headfirst into a 3-foot-deep children's wading pool, and the SH3 who fell out of a tree in his backyard don't have these resources. Neither do most civilian employees of the Navy and Marine Corps.

How would you fare if you were in the same situation as Christopher Reeve? Think about this before you dive into shallow water, before you drive around without being buckled up, or before you ride that ornery bull at an amateur's rodeo.

Ms. Mack is the editor of *Ashore*.

Below Bingo and at Decision Heigl

by Capt. M. H. Phares

IT ALL STARTED AS JUST another training flight in the Hornet FRS at Cecil Field. I was number three in a six-plane go scheduled for a night bounce at OLF White House only eight miles away, in preparation for initial CQ in the FA-18. The flight went as scheduled, and I called the ball with a fat 3.2 on my last pass. Tower directed me to climb to 3,000 feet for the standard departure and to report Cecil in sight.

As I went IMC passing 2,000 feet, I became concerned about my fuel state, as squadron SOP requires a minimum of 2.0 on deck. Otherwise, you must tell ATC "minimum fuel." Below 1.5 requires using the "E" word.

Switching to Cecil Radar, I told them I was IMC and requested lower to gain a visual on the field. They cleared me to 1,200 feet, and I descended still in the goo.

I thought, "No problem. I'll shoot an ACLS approach and be on deck with 2,000 pounds plus. Besides, this will be good practice for the ship."

As I approached 5 nm, radar told me needles weren't working, so I downgraded to a GCA, still confident I would be on deck shortly. As I dirtied up, the lightning and turbulence became much worse, making a bumpy ride all the way down. At a fuel state of 2.4, I was no longer really concerned because I knew I would be breaking out at any second with the field in my windscreen for a few more seconds of ball flying to an OK pass.

At 200 feet, with the radalt sounding, I finally realized I wasn't going to break out on this pass. As I went missed approach, I radioed for instructions.

Checking my fuel, I was now at 2.0, and I declared "emergency fuel," because I wouldn't be on deck with 1.5. Tower had me turn and climb back into the GCA pattern, and I called base. The duty officer advised me the thunderstorm cell was sitting over the field and Navy Jacksonville only a few miles away was clear. Relieved, I immediately turned east to Jax. I could not recall the tacan channel for Jax, and again the duty officer came through for me with a "Forty-nine Ex" call over the back radio.

I punched in the channel, but the tacan would not receive. However, seconds later, I broke out to a beautiful sight. The runway at Jax was directly in front of me and lit up like a Christmas tree. I told approach I was switching to tower to tell them I was landing.

As the gear came down, I was shocked as tower reported that an S-3 had just fouled the runway with an arrested landing and asked if I could land on the off-duty. I replied, "Yes, with immediate vectors." Tower said I was on my own because the radar was down and I would have to circle visually.

As I raised the gear and headed southeast to acquire the runway, the bingo caution went off with the bug set at 1.5. Now I was really starting to get concerned and, to add to my worries, the thunderstorm at Cecil was approaching Jax. Not seeing the

IMC
at

runway, I finally called tower to ask if the runway lights were on, and they replied the lights would be on shortly. The lights suddenly appeared. I threw the gear and flaps down as I started a rapid descent.

Suddenly, the wet runway started to look short. Tower said it was only 5,500 feet, a full 1,000 feet shorter than the minimum runway requirements per squadron SOP. The saving grace, however, was the mid-field arresting gear. I dropped the hook and took a mid-field arrestment with 1,300 pounds of fuel.

That night, I learned that the time to think about diverting is not when you are doing it. We always brief diverts for Moody and Patrick AFB, but the closest is 80 miles and requires 2,500 pounds to land with 1,500 pounds on deck. By the time I went missed approach I was already below bingo for the primary diverts. The fact that I was only eight miles away fooled me. Had I known the weather at Cecil before leaving White House, I would have headed straight for Jax without wasting fuel on a futile approach.

Another gotcha is the layout of the local fields. If I'd been more familiar with Jax, I could have found the alternate runway more quickly and had a better heads up on its length. Luckily for me, the storm was a small cell, and Jax was not clobbered when I left Cecil. It could have been worse.

Capt. Phares flies with VFA-106.

Mais la Taxiway

by Lt. Christopher S. Carroll

Maneuvering a large aircraft on narrow taxiways is always a challenge, and operating from an unfamiliar field makes it worse. We launched from Keflavik, Iceland, to Lann Bihoue, France, on a logistics flight. Transit and approach were uneventful with the crew looking forward to landing, refueling and getting back in the air.

As we cleared the active runway, we were greeted by a controller whose thick accent was hard to understand and would become a problem when we got our departure clearance.

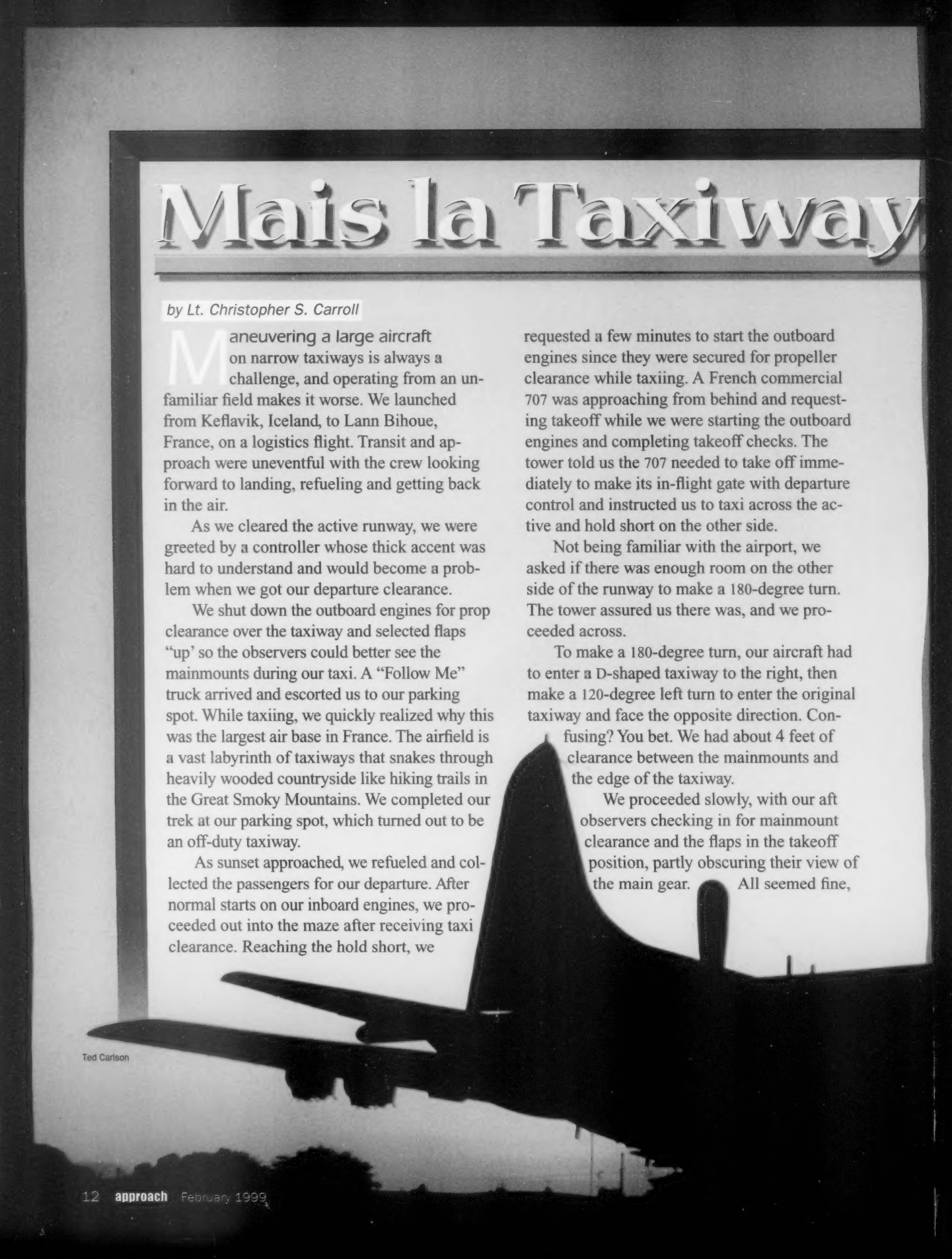
We shut down the outboard engines for prop clearance over the taxiway and selected flaps "up' so the observers could better see the mainmounts during our taxi. A "Follow Me" truck arrived and escorted us to our parking spot. While taxiing, we quickly realized why this was the largest air base in France. The airfield is a vast labyrinth of taxiways that snakes through heavily wooded countryside like hiking trails in the Great Smoky Mountains. We completed our trek at our parking spot, which turned out to be an off-duty taxiway.

As sunset approached, we refueled and collected the passengers for our departure. After normal starts on our inboard engines, we proceeded out into the maze after receiving taxi clearance. Reaching the hold short, we requested a few minutes to start the outboard engines since they were secured for propeller clearance while taxiing. A French commercial 707 was approaching from behind and requesting takeoff while we were starting the outboard engines and completing takeoff checks. The tower told us the 707 needed to take off immediately to make its in-flight gate with departure control and instructed us to taxi across the active and hold short on the other side.

Not being familiar with the airport, we asked if there was enough room on the other side of the runway to make a 180-degree turn. The tower assured us there was, and we proceeded across.

To make a 180-degree turn, our aircraft had to enter a D-shaped taxiway to the right, then make a 120-degree left turn to enter the original taxiway and face the opposite direction. Confusing? You bet. We had about 4 feet of clearance between the mainmounts and the edge of the taxiway.

We proceeded slowly, with our aft observers checking in for mainmount clearance and the flaps in the takeoff position, partly obscuring their view of the main gear. All seemed fine,



Ted Carlson

She Is So Petite!

though, until that final left turn to enter the original taxiway.

While negotiating the turn, the pilot at the controls was particularly concerned with a red-and-white sign and a blue taxi light that looked rather high. He stopped, and we asked the aft observers about our position on the taxiway. Our TACCO, near the front of the aircraft, looked out his window and said he thought the aircraft might be off the taxiway.

We set the parking brake and brought the flaps up for a closer look, which confirmed both left main tires were off the taxiway. The flight engineer secured the engines, and we got out for a closer inspection.

The inboard port tire was sitting down in a crushed section of concrete about 2 feet square with the outboard port tire on several inches of large, loose gravel. After confirming there was no damage to the aircraft, we discussed our predicament, looking for a possible solution. We looked into tow bars and aircraft jacks on the air base, but found nothing that would fit our aircraft.

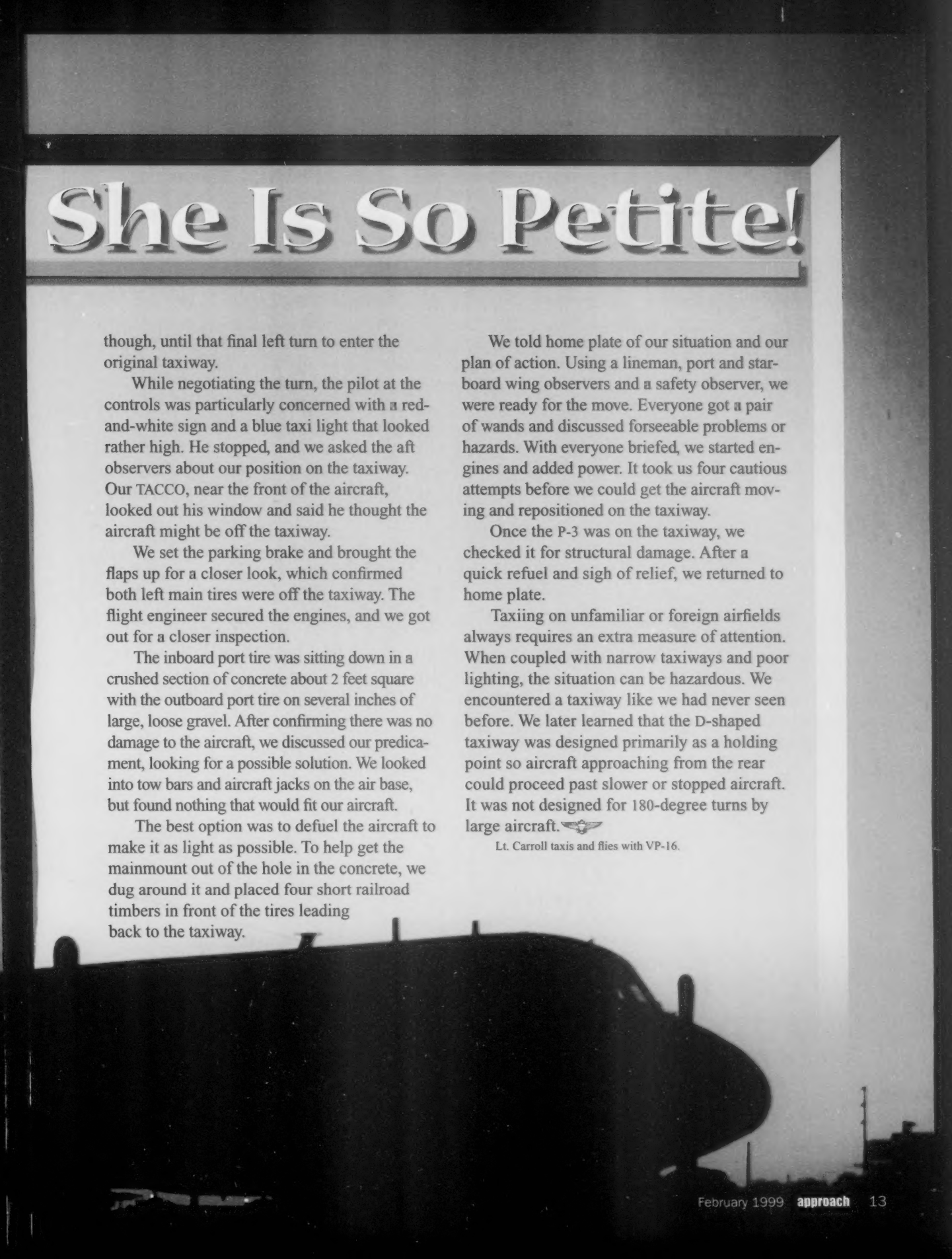
The best option was to defuel the aircraft to make it as light as possible. To help get the mainmount out of the hole in the concrete, we dug around it and placed four short railroad timbers in front of the tires leading back to the taxiway.

We told home plate of our situation and our plan of action. Using a lineman, port and starboard wing observers and a safety observer, we were ready for the move. Everyone got a pair of wands and discussed forseeable problems or hazards. With everyone briefed, we started engines and added power. It took us four cautious attempts before we could get the aircraft moving and repositioned on the taxiway.

Once the P-3 was on the taxiway, we checked it for structural damage. After a quick refuel and sigh of relief, we returned to home plate.

Taxiing on unfamiliar or foreign airfields always requires an extra measure of attention. When coupled with narrow taxiways and poor lighting, the situation can be hazardous. We encountered a taxiway like we had never seen before. We later learned that the D-shaped taxiway was designed primarily as a holding point so aircraft approaching from the rear could proceed past slower or stopped aircraft. It was not designed for 180-degree turns by large aircraft.

Lt. Carroll taxis and flies with VP-16.



Watch Out for That Tree-e-e!
(With Apologies to "George of the Jungle")

by Cdr. Kevin Mattonen

I know exactly how these guys feel, because I have the distinction of having been the mission commander of a P-3 that taxied into a tree. There is no mistaking that sinking feeling in your stomach after you realize you have been in complete control of a situation that ends up very wrong.

While on det, we were flying an around-the-clock surveillance profile. By the fourth or fifth mission, our body clocks were completely confused, tempers were sharpening, we were less than a month from going home—all the elements that can provide a setting for bad things to happen.

Several P-3s had been called into play, and as ramp space became tight, new parking spots were created. Landing just after sunrise after an all-nighter, we were told by the host squadron that we would be directed to a space between two hangars at the far end of the line.

Now, you and I might guess that if there is a space between two hangars, it should be big enough that an airplane could get in and out of those hangars.

Never guess.

As we continued to taxi down the ramp, we knew we were in unfamiliar territory. We saw a cluster of linemen and continued toward that part of the line. As the taxi-director took control, he stopped us and stationed our wing-walkers. I looked ahead and saw a ver-r-r-y narrow throat between the two hangars. Nearing the end of what had been a JO tour without any incidents in my service record, I went back to the starboard aft-observer's station to watch for clearance. As we say in *Approach*, "What happened next is why we never run out of stories."

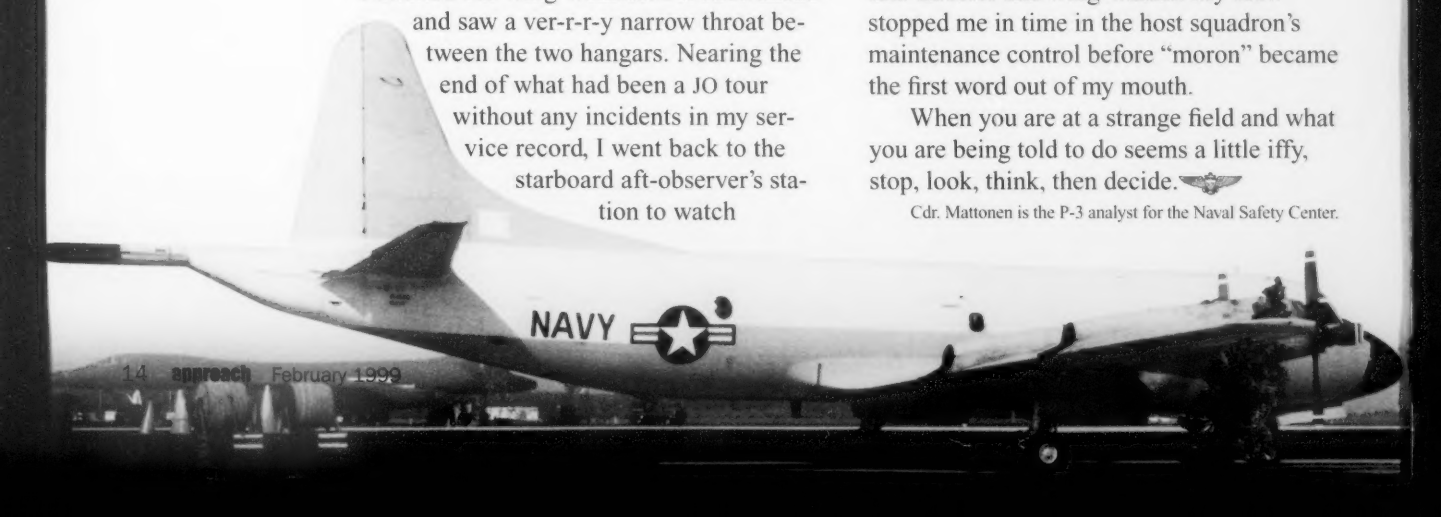
As we swung left into the ramp area, I realized that the ramp entrance had nicely tended lawns on either side planted with cherry trees. The first clue to the wing-walker should have been having to walk outboard of the tree to spin the plane. When I saw this, I started calling (read: bellowing) on the ICS to stop the plane. At times, pilots disregard NFOs after crossing the threshold because it seems all they do is paperwork from off-station until the end of debrief. Maybe that was why the pilots didn't listen. Perhaps the director, who was waving them to "keep it comin'," was very convincing. Maybe the sun was in their eyes. Whatever, things just happened in slow motion for the rest of the event.

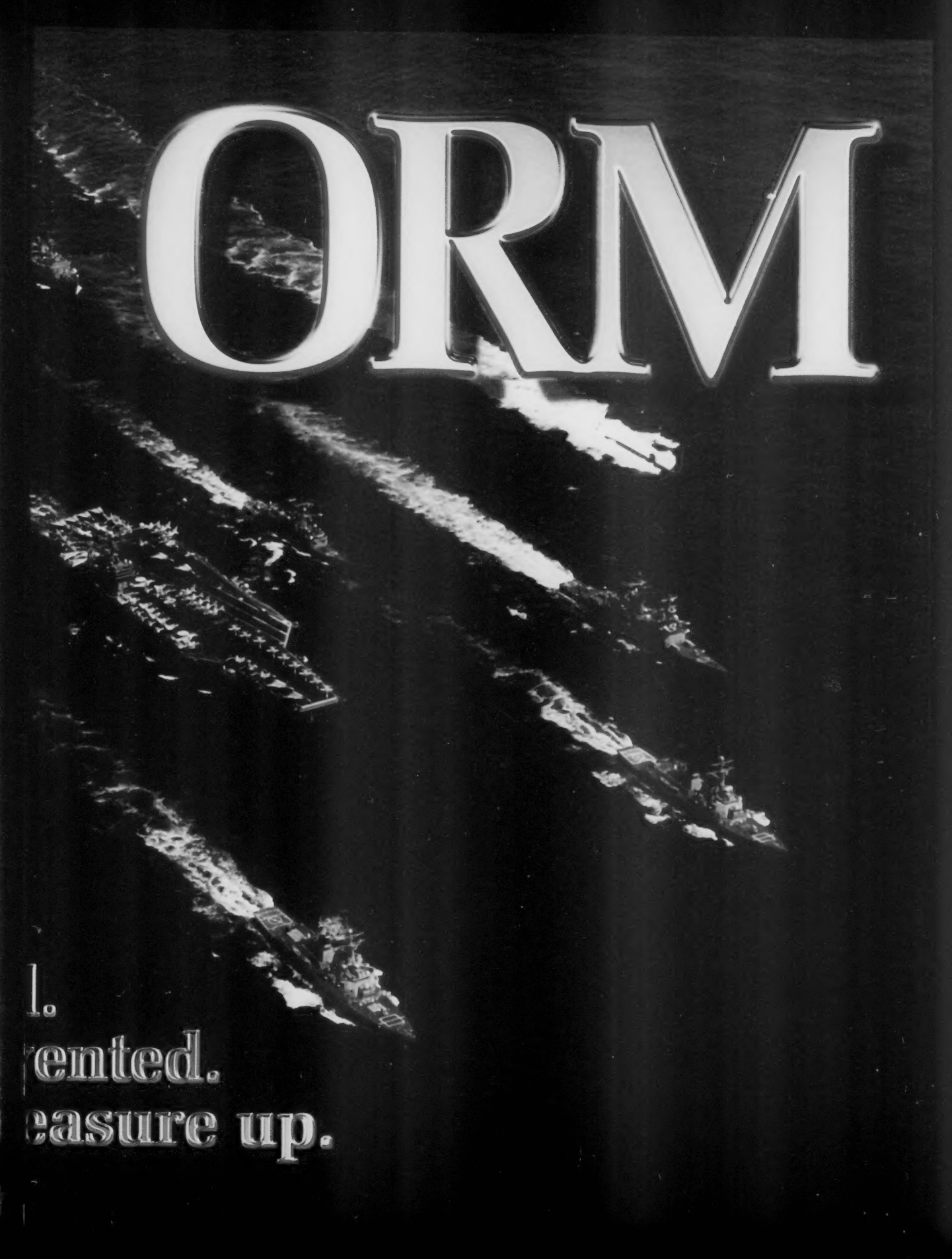
As I watched us continue onto the ramp, I leaned out the observer window and stared as the entire tree disappeared under the wing. Meanwhile the wing-walker was giving the enthusiastic thumbs-up to the taxi-director. As we continued to turn toward our spot, I watched as the cherry tree did the classic cartoon catapult (s-s-p-proing!) back into its upright posture.

After we were chocked, I began a sequential debrief of the flight-station crew, taxi-director and wing-walker. My crew stopped me in time in the host squadron's maintenance control before "moron" became the first word out of my mouth.

When you are at a strange field and what you are being told to do seems a little iffy, stop, look, think, then decide.

Cdr. Mattonen is the P-3 analyst for the Naval Safety Center.

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Milestones

Class A mishap-free flight hours

Command	Date	Hours	Years
HMLA-775	01/22/98	15,000	7
HSL-41	01/20/99	94,000	16
VP-1	06/16/98	95,000	15
VMGR-452	06/30/98	35,000	9
VAQ-132	07/05/98	46,000	28
HMM-774	06/30/98	55,000	28
HMT-301	09/08/98	107,000	23
HSL-84	10/30/98	44,228	19
VMGR-252	11/16/98	360,00	39
VS-30	12/05/98	68,430	19
VFA-131	12/09/98	43,000	11
VAW-121	12/15/98	62,000	32
VP-4	12/16/98	181,900	27
VAQ-134	12/16/98	40,000	28
VAQ-129	01/01/99	45,500	6.2

Class A Mishaps

The following Navy and Marine Corps Class A flight and flight-related mishaps occurred since 1 December:

Aircraft	Date	Command	Fatalities
AV-8B	12/03/98	HMM-163	0

A Harrier had an in-flight fire and crashed at sea.

T-2C	01/06/99	VT-9	0

A Buckeye crashed during a student familiarization flight.

AV-8B	01/07/99	VMA-311	0

A Harrier crashed from a 50-foot hover; pilot ejected without injury.

Class A Flight Mishap Rate

	FY99* thru 1/15/99		FY98 thru 1/15/98	
	No.	Rate	No.	Rate
Navy/Marine	5	1.28	6	1.43
All Navy	3	.99	4	1.25
All Marine	2	2.26	2	2.06
NAVAIRLANT	1	1.22	1	1.15
NAVAIRPAC	1	1.20	0	0.00
MARFORLANT	0	0.00	1	3.17
MARFORPAC	2	4.57	1	2.13
NATRACOM	1	1.12	3	2.96
NAVAIRES	0	0.00	0	0.00
4th MAW	0	0.00	0	0.00
NAVAIRSYSCOM	0	0.00	0	0.00
NAVSTKWARCEN	0	0.00	0	0.00

*FY99 data subject to change.

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Data: Dr. Michael S. Borowsky
Design: Laurinda Minke
Visit our web site at:
http://www.norfolk.navy.mil/safecen/
For questions or comments, call Peter Mersky
(757) 444-3520 ext. 7257 (DSN 564)

Tear out this insert!
Post this newsletter until it's old news.

POP-UP

Dietary Supplements and Herbal Medicines in Holding Pattern

Dietary supplements and herbal medicines are big business. Because these products are widely available over the counter or through the mail, it is important for aviators to understand the reasons why the use of these substances is unauthorized and a bad idea.

NATOPS General Flight and Operating Instructions (OPNAVINST 3710.7, Chapter 8), defines a drug as, "any chemical that when taken into the body causes a physiological response." It further notes: "...because of the possibility of adverse side effects and unpredictable reactions, the use of over-the-counter drugs by flight personnel is prohibited unless specifically approved by a flight surgeon."

Dietary supplements and herbal medicines contain chemicals that cause physiological responses. In the future, scientific studies will determine the benefits and side effects of these substances. In the meantime, there is no FDA oversight on the manufacture or sale of these substances. Therefore, concentrations and substance purity may vary. Often, no dosage recommendations are provided. The effects of these substances have not been scientifically studied in the aviation environment, and the information from routine studies is just emerging.

It is for these reasons that the use of dietary supplements and herbal medicines has not been approved for aircrew members. Flight surgeons should not approve these substances for anyone on flight status until more information is available.

Aviation is dangerous enough without additional risks from the unauthorized use of these chemicals. The Aviation Branch of the Bureau of Medicine and Surgery has not ruled out the potential benefits of these substances, but has taken a cautious approach in limiting risk-classic ORM.

Pop-up created with the assistance of Capt. James Fraser, MC, Head of the Aeromedical Division at the Naval Safety Center.

Air Wing

Tailor Your Mishap Kit for the Site.

As a mishap investigator, I have been to numerous aircraft mishap sites to assist in the investigation. Every squadron arrives with its mishap kit to deal with the wreckage and debris. All kits have generally been well constructed and contained the standard equipment. But for many crash sites they often bring too much stuff. It's important to take charge of the scene, but nonessential items in your crash kit can hinder the effort. Build your mishap kit with enough flexibility to mix and match items to adapt to a specific situation. Create contingency plans for all the possible areas that you are likely to go.

One particular item I have found lacking on a couple of recent mishaps is an effective bag for storing pieces of the wreckage. Don't use plastic bags; I recommend burlap feed bags, and get as many as you can.

When assembling your kit, plan for a worst-case scenario, and determine what you will need to do an effective job. Incorporate a logistics plan of action as well. Pre-planning things such as water, a corpsman (for first-aid injuries of investigators), pallets and tri-walls (for moving pieces of the aircraft) will save a lot of time and headaches at the scene.

Transporting the mishap kit to the site can also be cumbersome, particularly if it consists of two or three boxes. To make things easier, pack items common to all possible locations in a primary box and the more specific items in other boxes. Then tailor your kit to the location, leaving extraneous things at home base.

Lock up the mishap kit to avoid discovering that you are missing items at the scene. Make sure the SDO has a key.

A list of common elements contained in the mishap kit can be found on the Naval Safety Center's web site: www.norfolk.navy.mil/safecen, in the Aircraft Investigators hyperlink.

For answers to other questions, contact LCdr. Dave Clark (757)444-3520 Ext. 7239 (DSN 564), or your community's aircraft analyst.

LCdr. Clark is an aircraft-mishap investigator at the Naval Safety Center.

Safety Posters Available.

The Naval Safety Center's web site: www.norfolk.navy.mil/safecen, contains a comprehensive list of available safety posters. Some posters are available only electronically. Contact LCdr. Mark Enderson, Code 72 or Ms. Ginger Rives for further details or questions (757) 444-3520 Extension 7245 or 7256 (DSN 564).

Edited by LCdr. Mark Enderson. Contributors can contact him at (757) 444-3520 Ext. 7245 (DSN 564). E-mail address: menderso@safecen.navy.mil

UNITED STATES
Readiness Through Safety
NAVAL SAFETY CENTER
We've been downsized
Right-sized. And reinv
But we still have to m
Visit our web site at: www.norfolk.navy.mil/safecen (757)444-3520 (DSN 564)

LESSONS LEARNED

Distraction in the Pattern

by LCdr. Dave Clark

AFTER A TOUCH-AND-GO, an AV-8B pilot was cleared for the downwind and began a climbing right turn. With weather at 3,000 feet, scattered and 3 miles visibility, he kept the runway in sight as he climbed to pattern altitude. Turning downwind, he leveled off at 1,000 feet and maintained a 60-degree bank with nozzles at 24 degrees. The tower controller told the Harrier pilot, "Keep it kinda tight; visibility ain't that great."

The pilot responded, "Not a problem."

The pilot increased his angle of bank to 80 degrees and set nozzles to 60 degrees. In three seconds, angle of attack increased from 11 units to 23 units, and airspeed dropped from 174 knots to 145 knots. The aircraft stalled, and its nose yawed down and to the right. With little altitude to recover, the pilot quickly selected full power. The aircraft returned to 60 degrees right wing down, but then rolled rapidly to the right, eventually becoming inverted.

Descending through 800 feet, he ejected. The Marine pilot suffered first-aid injuries, and the aircraft was destroyed.

Simply put, this pilot failed to fly his aircraft.

LCdr. Clark is an aircraft-mishap investigator for the Naval Safety Center.

Note: The information in this article comes exclusively from non-privileged sources.

The CO Let

by LCdr. Gerald Nunez

Passing through 10,000 feet, we emerged from a layer of milky-brown haze typical of the Arabian Gulf in summer. Our mission today, as it had been for the last three months, was to provide SEAD coverage for the strike package that would be penetrating the MEZ (missile-engagement zone) on yet another Operation Southern Watch hop. My crew and I were confident we could handle any situation that might arise during the flight.

Leveling off at 18,000 feet, we completed our climb checklist and were proceeding to the tanker for our standard 5k give. The cold, air-conditioned air that filled the cockpit was a welcome relief from the 130-degree temperature on the flight deck during man-up. We were roughly 90 miles from the ship and began receiving bearing, range, and altitude calls to our tanker when our right engine's firelight illuminated. I immediately told the crew and began stepping through the memory items of the emergency checklist.

I called out each action item, and I asked ECMO 1 to verify that I was indeed securing the correct throttle and engine-fuel master switch. The precision of our aircrew coordination would have impressed an FRS instructor conducting an emergency-procedures simulator.

As the right engine began winding down, I started a right turn back toward the ship and asked ECMO 1 and ECMO 2 to look back to see if we were trailing any smoke. With no signs of smoke, we all breathed a big sigh of relief. But our moment of comfort was short-lived, our aircraft began to vibrate.

Let's see, what were those positive indications of a fire? Abnormal engine instrument readings, trailing smoke… vibrations? I quickly scanned the instrument panel to see if there were any other abnormal indications. About this time, I lost my primary attitude source, so I quickly switched over to the secondary source. Within a few seconds I lost the secondary source as well.

Although we didn't say a word, ECMO 1 and I were thinking the same thing: We're going to have to jump out of this thing.

Just as quickly as the attitude sources had failed, they returned and seemed to be tracking fine. The vibrations also dissipated as the right engine was now windmilling. Convinced we could continue flying our single-engine Prowler, we proceeded back to the ship.

While ECMO 1 read off the checklist and contacted strike, ECMO 2 contacted our

PH1 James Williams

Us Handle It

tower flower and briefed him on our situation and intentions. Meanwhile, ECMO 3 backed up ECMO 1 on the checklist and called out follow-on pages. In the Prowler community, we brief aircrew responsibilities during emergencies for just such an occasion. It definitely reduces the number of snakes in the cockpit.

We entered holding overhead the ship and completed the rest of the checklist. Because I had secured the gangbar earlier during the engine shutdown, the temperature in the cockpit was quickly rising. The ram-air did little to offer relief and besides having to deal with the emergency, we had to continually wipe the sweat that was running down our faces.

We calculated our single-engine landing weight and erred to the safe side, using 110 degrees instead of the 100 degrees given during the weather brief. Based on the recommended single-engine landing weight in the PCL, we needed to dump down to 6,000 pounds of fuel. Once this was done, we told the Boss we were ready to come aboard.

We began pushing aft of the ship when we received the dreaded call from the Boss telling us to go button 17 for a rep. One of the most distracting things to an aircrew coping with an emergency is unsolicited input. I had the XO in my front seat, so it was pretty easy to guess whose voice would be on the other end. Sure enough, it was the skipper, but he only wanted us to confirm we had come up with the same landing weight that he and the tower flower had calculated. Once we had confirmed this fact, we didn't hear anything else from our reps, and they let us fly the aircraft.

We turned back to the ship at 10 miles, began a slow descent, lowered the gear, and set the flaps to 20 degrees. I decided to fly a long straight-in to ensure I had enough time to set up for the approach and be able to slow-flight the aircraft before coming down the chute.

Continuing the descent, I added power as we passed 1,600 feet and six miles. Expecting to level off at 1,200 feet, I was surprised when we continued to descend. Even with the power set at MRT, we were still descending at 300 fpm. I told the crew I could not stop our rate of descent, nor could I increase our airspeed. By this time, we were at five miles and had burned down to 5,000 pounds of fuel, 1,000 pounds below our conservative single-engine, landing-weight calculation. I immediately dumped another 1,000 pounds of fuel, which helped stop the rate of descent, but we could not speed up or climb. Knowing that I needed excess thrust if I had to wave off, I dumped another 500 pounds as we passed the four-mile mark. This put us at 3,500 pounds of fuel, which was 1,300 pounds below our bingo fuel. This was better than jettisoning the external stores because I knew the recovery tanker was overhead the ship. My next step would have been to hit the external-stores jettison button if dumping another 500 pounds of fuel didn't work.

Dumping the 500 pounds of fuel did the trick, however. I soon found the aircraft climbing at 500 fpm. By this time, we were at three miles and had actually climbed through the glide slope. As I tried to fly back down toward the glide slope, I was concerned about picking up too much of a rate

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Dumping the 500 pounds of fuel did the trick, however. I soon found the aircraft climbing at 500 fpm. By this time, we were at three miles and had actually climbed through the glide slope. As I tried to fly back down toward the glide slope, I was concerned about picking up too much of a rate

of descent and not having enough power to stop it, especially in-close at the ramp.

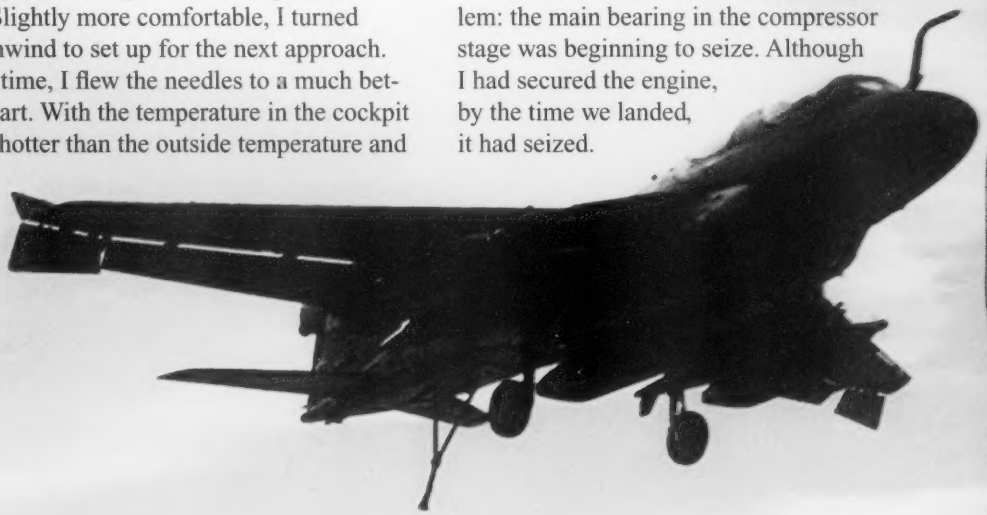
I cautiously pulled a handful of power and then added it right back, not wanting the engine to spool down too far. I even tried shaking the control stick from side to side, hoping the flaperons would provide me with enough poor man's DLC (direct lift control) to get back down on glide slope. But there was no way I was going to be able to get back on the glide slope unless I established a rate of descent greater than 1,000 fpm.

I felt it would have been too much to land safely, and I waved off. As I flew up the angle, the engine provided more than enough thrust to get us climbing away.

Slightly more comfortable, I turned downwind to set up for the next approach. This time, I flew the needles to a much better start. With the temperature in the cockpit now hotter than the outside temperature and sweat running into my eyes, I managed to fly a decent pass to an OK 3-wire. By the time we shut down, I was mentally and physically drained. The temperature in the cockpit had taken its toll on all of us.

Glad to be on deck, we walked back to the ready room looking like a pack of drowned rats. In some respects, we were lucky: the engine hadn't exploded, and we hadn't been forced to punch off some very expensive stores. So what really happened? Postflight inspection revealed that the engine fire light was caused by hot exhaust gasses being ported back into the engine compartment through cracks in the exhaust bellows.

The vibrations were an unrelated problem: the main bearing in the compressor stage was beginning to seize. Although I had secured the engine, by the time we landed, it had seized.



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Ideally, we would like NATOPS to give us canned solutions, but that can't always be the case, especially with compound emergencies. As aviators, we must have a solid understanding of aircraft systems and how they are interrelated. When the unexpected happens and all recommended NATOPS procedures have been exhausted, we have to use sound judgement to find a solution that gets us back on deck.

Here are some things to think about. First, don't rush. Contrary to what we learn in flight school, not all emergencies require us to respond with blinding speed. A fire light will definitely get your heart pounding, but shutting down the wrong engine will darn near make it stop. All the systems knowledge in the world do you no good if you flick the wrong switch. Besides, when was the last time you heard of an aircraft exploding seconds after a fire light?

Second, aircrew coordination works, whether it's with another crew member, or a wingman (for you single-seat types). An emergency is not the time to show the world that you can save the day by trying to handle everything. Divide the responsibilities and work as a team. Aircrew coordination only works if you practice it every time you fly. No one should walk out of a brief and wonder about his job during an emergency.

Third, communicate. Don't play "I've got a secret" and expect everyone to know what you're doing. By telling the ship and our rep about our problem and our plans, we were able to drive the problem ourselves and keep the external chatter to a minimum.

And remember, there is no such thing as a minor detail. Let all of your intentions be known. I dumped below bingo fuel instead of jettisoning the external stores. I figured the recovery tanker would be overhead the ship, but on this day, it wasn't. Strike had decided to release the tanker shortly after the launch was complete. At the time of our recovery, the tanker was more than 70 miles away. Had we told strike, the tanker would have been in place if we had needed it.

LCdr. Nunez flies with VAQ-140.

PHAN Chris Vickers

Did He Say I Lost Nosegear?

by Lt. Hector L. Rodriguez

Nosegear struts aren't designed to collapse on the catapult, so why is the Boss yelling over button 15 that I lost my strut? It's my LSO wave-day, for crying out loud! I'm not even supposed to be flying. Why is this happening to me?

I climbed off the cat in disbelief in my crippled S-3B for an overhead inspection of what turned out to be a sheared nosegear strut. In just two seconds, my flight went from a routine SSC-RTK hop to a near-disastrous, eye-opening experience. Had it not been for the way we coordinated and handled the emergency in the cockpit and with outside help, the missing nosegear could have been the least of our worries.

Nothing had been peculiar about the preflight and man-up of Viking 705. Everything from start-up to taxi was normal. We completed the takeoff checks as we taxied to cat 4, taxied further into the shuttle, and then went into tension. With the engines roaring and the jet vibrating, I gave the instruments one final check and asked the COTAC if everything looked OK on his side.

"I like it," he said.

A smart salute to the shooter and the routine part of the flight ended.

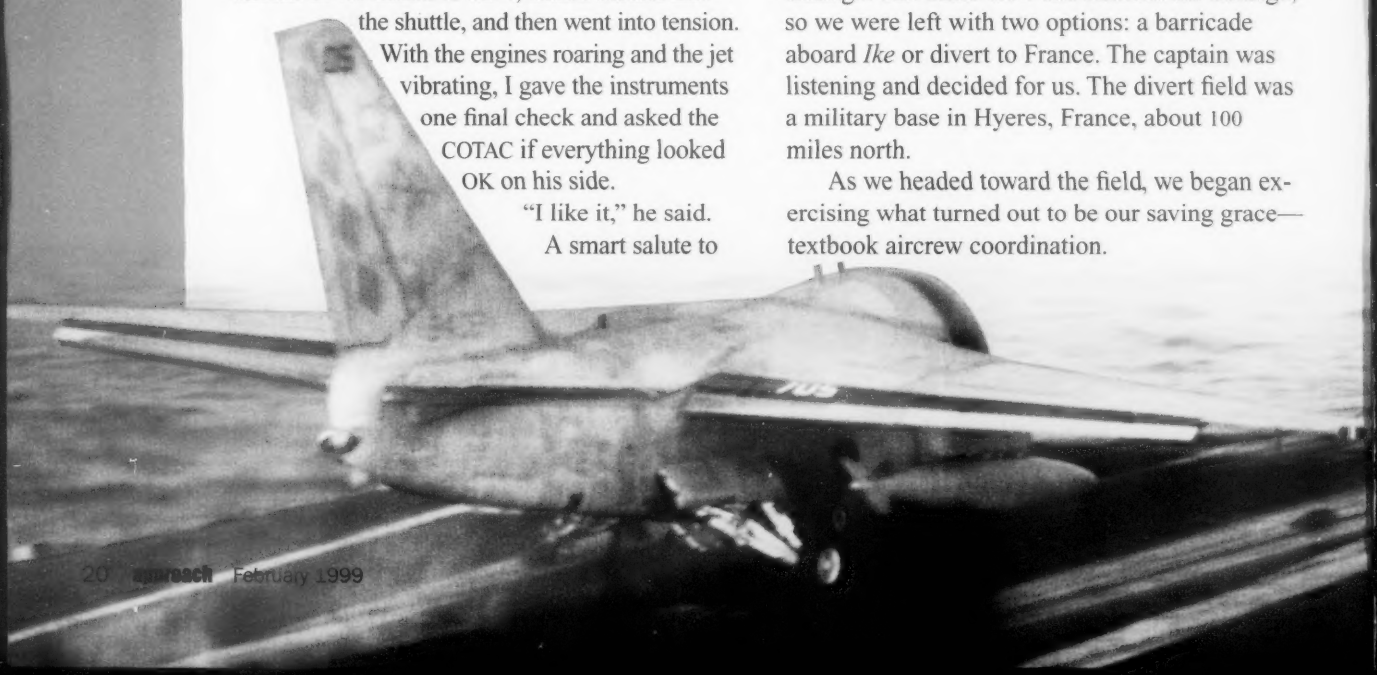
I knew something was wrong. The aircraft did an abnormal squat, accompanied with a loud snapping noise. Even with the noise and jolts associated with a normal catapult shot, I knew something had broken under my jet. The aircraft bounced a few times as we accelerated down the catapult, settled a little, but was soon airborne. I opted not to raise the landing gear because of the probable damage under my jet.

The Boss then yelled, "Seven Oh Five, you lost your nosegear!"

What? Did he just say I lost my nosegear strut? Not a blown tire, but my entire nose-gear strut?

I continued the Case I departure procedures and told the Boss I was going overhead mother to have another Viking crew check and confirm the damage. The other crew did confirm the damage, so we were left with two options: a barricade aboard *Ike* or divert to France. The captain was listening and decided for us. The divert field was a military base in Hyeres, France, about 100 miles north.

As we headed toward the field, we began exercising what turned out to be our saving grace—textbook aircrew coordination.



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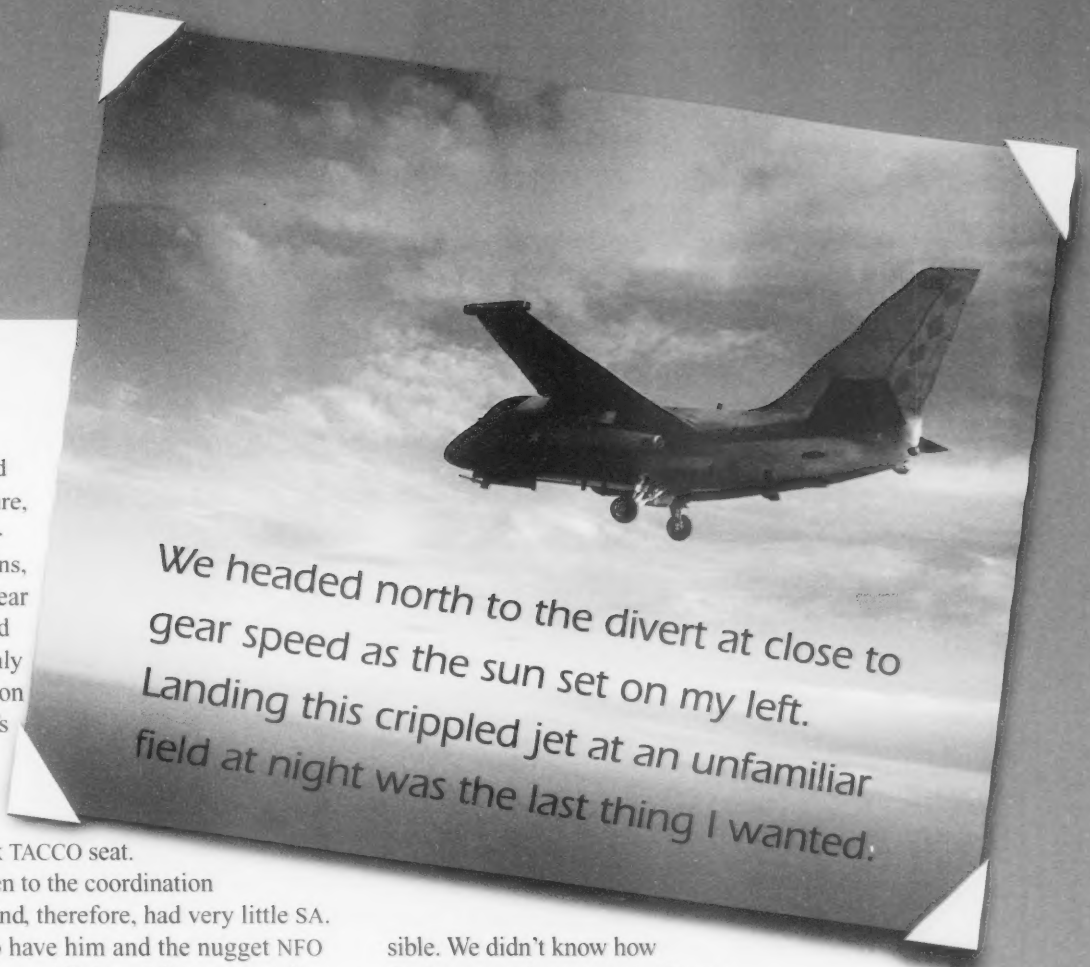


We had good hydraulic pressure, three-down-and-locked indications, no light in the gear handle, and good indexers. The only internal distraction was the skipper's intermittent problems with the ICS and radio in the back TACCO seat. He couldn't listen to the coordination outside the jet and, therefore, had very little SA.

I decided to have him and the nugget NFO in front swap seats. All the while, we coordinated with my XO (who was the CATCC rep), my escort (Diamond 700), and Tiger Tail 600, the E-2, whose crew quickly took control of the situation and began coordinating with the French controllers.

We headed north to the divert at close to gear speed as the sun set on my left. Landing this crippled jet at an unfamiliar field at night was the last thing I wanted. Meanwhile, coordination between us, the E-2, our rep, and our escort was good—almost too good. At one point, we were getting information and questions from all three sources while still doing our emergency checklists. At that point, we should have made a simple radio call to all concerned to "Stand by."

Midway to the divert, I began to think about the landing. My concern at this point was keeping the S-3B's nose off the runway for as long as possible. We didn't know how the jet was going to respond once the strut-less nose touched down on the runway. Would it collapse even further? Would the jet careen to the left or right, or would it tumble once the damaged nose gear hit the runway?

We started talking contingencies: ejecting if we went off the runway toward something solid or immovable. We also talked about blowing one or all of the canopies because the missing nosegear made the cabin door inaccessible. I briefed the crew that the SENSO, who sits in the aft left seat, would jettison his canopy and that we would evacuate through his side in a logical order.

Once we finished the checklists and ciphered through all of the recommendations, we didn't have much else to do. We realized the severity of what could happen if my plans and actions failed. At this point, we were overhead the field, and I could see fire trucks and foam on the runway.

We headed north to the divert at close to gear speed as the sun set on my left. Landing this crippled jet at an unfamiliar field at night was the last thing I wanted.

We switched to Hyeres Tower and told them we wanted a low approach to survey the field. I wanted to see the layout and get a feel for what the winds were doing on final. I had to land on centerline with little or no drift.

We made the first low approach, completed the landing checklist, and prepared for the worst. We made sure our lap belts were tight and that we were prepared for a possible ejection, i.e., visor down, gloves on, sleeves rolled down, and oxygen mask on.

I flew a wider-than-normal pattern, set myself up for a 4-mile straight-in, and flew a shallow rate-of-descent approach. The winds seemed to be right down the centerline, and the jet responded nicely to my power corrections. I used the VASI until about a mile from the runway. I wanted to use as much of the 7,000-foot runway as possible, so I aimed for the approach end and watched the VASI turn red over red. The approach itself took a lifetime. As a carrier pilot who knew nothing except to slam my jet on landing, I had to make the best flared landing of my career.

I reverted to my T-34C days when we were taught to stall the aircraft just before touchdown. The touchdown point neared and everything got eerily quiet. The runway filled the windscreen as I shifted my focus from the approach end to the departure end of the runway. The jet decelerated from an on-speed to a slightly-slow to a full-slow chevron as it neared the touchdown point. I slowly pulled the stick aft as the main gears touched and avoided deploying the speedbrakes as that would accelerate the nose falling to the deck. Surprisingly, I was able to hold the nose off longer than expected. Once we lost elevator effectiveness, though, nothing short of an aerodynamic miracle was keeping that nose off the pavement.

At around 80 knots, the nose finally surrendered and began to fall.

"Hang on!" I called, and we braced for the contact.

The nose strut thumped the runway and began making a very loud, grinding noise—much louder than the engines. The expected sparks, which appeared more like flames, began to form on my left side. I thought that my number one engine was on fire. I secured both engines as the jet slid onto the foam and further down the runway. The noise was incredible.

The skipper began yelling (we had no ICS at this point), "We're okay, we're okay!" The grinding noise lessened as we came to a halt. I then yelled to the TACCO in the aft right seat to blow his canopy. There was a pause. He pulled the handle. The subsequent explosion ripped through the cockpit like a shotgun blast. We were all jolted by it.

"Move, move, move!" I yelled. Through the smoke, debris and disorientation, we managed to quickly de-arm the ejection seats, unstrap and get out. The jet suffered no other damage and no one was seriously hurt.

When a flight becomes abnormal, you look for something normal to get you through the ordeal. We depended on our emergency checklists and good coordination between the crew, our rep, our escort, and the E-2. We knew the problem, developed a plan with contingencies, and then followed the plan. If you encounter such an emergency, please note that the hazard may not necessarily be the "missing strut." Clear and timely information is crucial.

Lt. Rodriguez was with VS-30 at the time of this incident. He is now an instructor with VS-41.

Risk Creep continued from page 3.

Yeah, but not as anxious as we had been. Weather still called 1,000-foot ceilings and 3 miles visibility. In reality, we were in and out of rainshowers, and the visibility changed from workable to unworkable every few minutes. The CO came out on deck to the lead Phrog and peered through a set of night-vision goggles to get a feel for what the pilots were seeing. At that point, the call was to stand by, and the squadron CO went to brief the MEU CO about the weather.

In the meantime, all the pilots rogered up to a one-time hit on the objective with no follow-on waves. Our fun meters had been pegged. We had been sitting on deck turning now for about one and a half hours.

The squadron CO made his way on the flight deck back to the island to recommend aborting the mission when another squall crossed over the ship and drenched him. He and the MEU CO discussed the weather on the flag-bridge weather deck (a most appropriate site). The MEU CO made the call to abort; we would be shutting down and staying aboard.

Shortly afterward in the ready room, there were a lot of smiles. The mission was part of our MEU-I x where medium risk is the routine. It appeared to be the last chance for the MEU to do its first night mission from the ship before it went into its special-operations evaluation. Canceling the mission was a hard decision, but the MEU commander had the authority and made the call.

He came down to the ready room to discuss his decision with us. He explained it in terms of Operational Risk Management: he sensed the risk level creeping out of the box. The risk level is assessed and briefed during the MEU's confirmation brief for every mission. That evening, there were two in-flight emergencies, a long delay on deck, and lousy weather. Lightning also threatened not only the air side of the mission, but also the Marines who would have been stuck out in it had we proceeded.

As a result of his decision, it became clear that our CO believes in risk management. He used it to keep us out of trouble. Although no one can say that we would have had a mishap that night, in the long run, using ORM to make decisions certainly saves lives and assets.

Capt. Thomas flies with HMM-266.

Lightning also threatened not only the air side of the mission, but also the Marines who would have been stuck out in it had we proceeded.

THE PAPER AND INK USED IN THE ORIGINAL PUBLICATION MAY AFFECT THE QUALITY OF THE MICROFORM EDITION.

"Rattler" Sends

Free Union, Va.-Besides mustering up pangs of nostalgia, *Approach* remains the premier publication on common sense and naval aviation. Superb work! I really like the enlarged format and the layout. Easy reading—obviously tailored for fighter pilots.

Cdr. Alex Rucker, USN (Ret)

Re: "Wheel-Deep in the Mud" (Nov '98)

NASJRB Ft. Worth-Although the author doesn't mention it, the crew was departing North Island's runway 11. According to C-9 NATOPS, takeoff is permitted with up to a 10-knot tailwind. Cdr. Mason wrote that, "We used 7,000 feet of the 8,000-foot runway." Actually, NORIS' runway 11 is 7,500 feet long. Factoring in the performance penalty created by the tailwind, critical field length was the determining factor in establishing the maximum allowable takeoff weight. While safe, a takeoff under these conditions uses most of the runway, and to the uninformed, may cause concern.

Takeoffs on runway 29 at NAS North Island are prohibited for C-9s because of the obstacle presented by the rising terrain of Point Loma. Runway 18, the primary departure runway, was no doubt closed that day, leaving runway 11 as the only option. I trust implicitly every one of my transport aircraft commanders. I have absolutely no doubt that this particular AC met all NATOPS, safety and performance parameters.

In 23 years of flying all over the world, the Navy's C-9 community has compiled more than 600,000 mishap-free flight hours. This remarkable record has been built on the foundation of a highly competitive selection process for our pilots and crewmen, along with a rigorous training and standardization program.

Whether Selected Reservists or TARs, these people represent a cross-section of every community in naval aviation and are the finest from each.

Capt. C.R. White, Jr., USNR
Commander Fleet Logistics Support Wing

Re: "Wheel-Deep in the Mud" (Nov '98)

Washington, DC—I was the CAG at the time of the mishap. Aside from the issues that Cdr. Mason raises, the two things that struck me most about this mishap were:

1. What was the urgency that demanded the aircraft land on that pass (with a 10K fuel load)?
2. If stopping was the only option, why didn't the pilot lower the hook himself?

The article disturbs me because it didn't address either issue. The purpose of the runway decel checks is to allow the pilot sufficient time to get airborne and try again if conditions don't allow proper braking and deceleration, not to use the long-field gear. That is why the checks are used even when there is no long-field arresting gear.

There are too many examples of pilots putting all their stopping eggs into the long-field-gear basket, only to have a hook skip and end up in the overrun. If you are committed to stopping, aim for the short-field gear and give yourself some options. If you run out of runway, perhaps dribbling into the mud is not the worst alternative depending on the condition of your aircraft.

As to who should lower the hook, as a career single-seat aviator in A-7s and FA-18s, I consider the arresting hook to be the same as any other flight control. As such, there is only one person in the aircraft who should be responsible for its use—the pilot. The article suggests the pilot was too busy with the stick and worrying about staying on centerline to lower it himself. If the hook is really that hard to lower from the pilot's seat, I suggest it be redesigned.

This article clearly points out why relying on verbal communication in an emergency is dangerous. It is a very common occurrence for ICS calls to be missed, stepped on by the radios or just plain misunderstood.

There was a similar *Approach* article about a Prowler landing at San Clemente on a weather divert from a SOCAL carrier in an earlier 1998 issue. ["Going Over (to) San Clemente in a Barrel," June, 1998] In that case, the crew again put all their faith into the long-field gear. They were fortunate to catch the wire and avoid a serious mishap. In both cases, fuel was not an issue, yet neither crew gave the first thought to going around and trying again.

The first event cited here happened more than two years ago (November or December 1996). I don't know when the second event took place. It was clear to me then that there was a lack of understanding of landing basics in the EA-6B community. It would be very interesting to know if the Prowler crews at Whidbey have been briefed on either one of these incidents or if their first response is still to let the long-field gear be their savior.

Capt. Steve Kunkle
Office of Under Secretary of Defense
(Acquisition & Technology), Pentagon

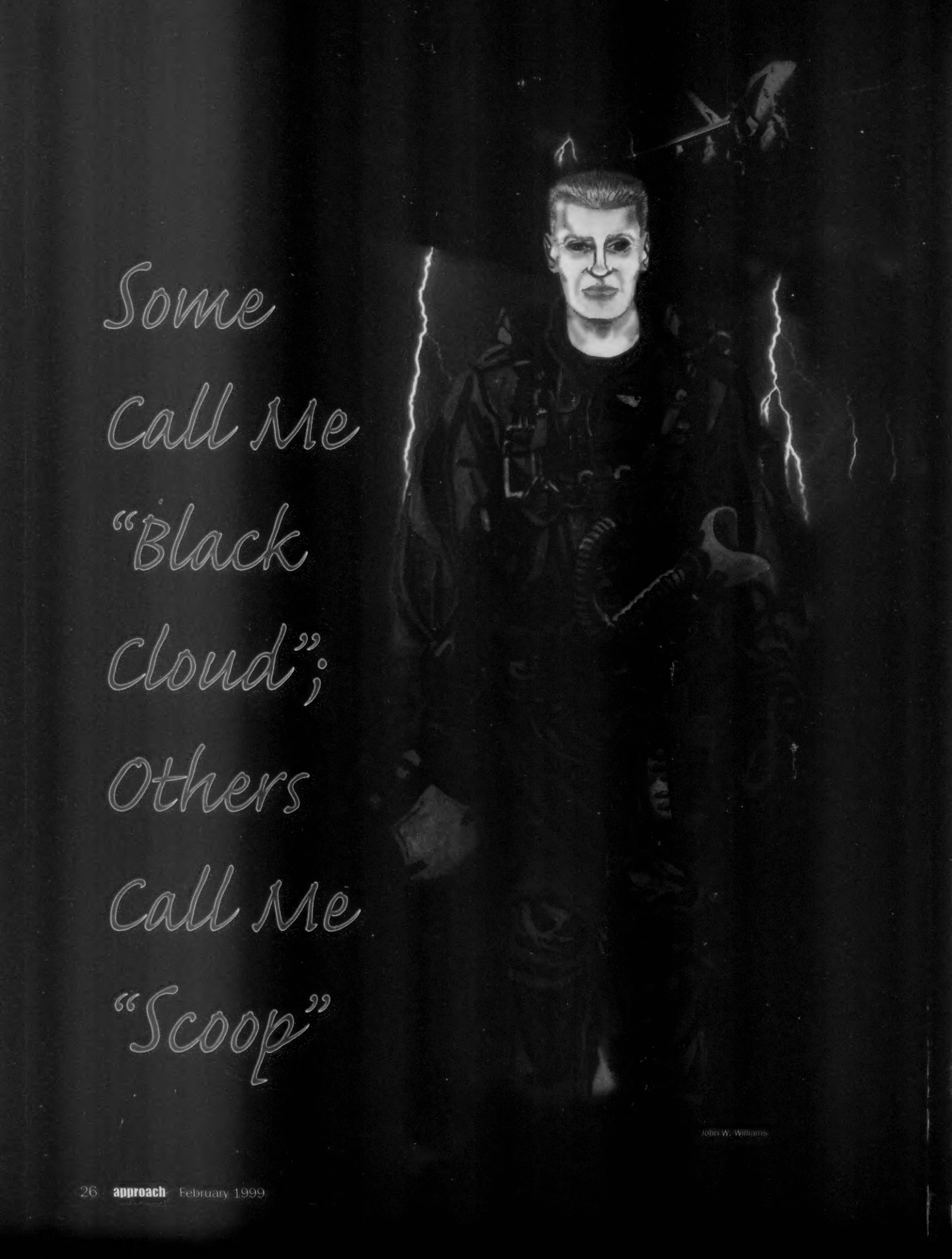
Cdr. Mason admits to confusion over lowering the tailhook and the fact the aircraft was heavy for landing on a wet runway with a tailwind. To answer Capt. Kunkle's questions:

1. *There was no urgency to land on that pass. It wasn't a question of getting the aircraft on deck, but once they were there, the crew's combined actions—or lack of them—put them in a position from which they could not recover.*
2. *The hook in the Prowler is on the center instrument panel, accessible to the pilot and ECMO 1. In multi-crew aircraft, pilots at the controls must rely on their copilots or NFOs for many things, ranging from challenge-and-reply checklists, to navigation and steering clues to the target, and even, at times, lowering the tailhook.*

The standard crew brief in this community is that if the pilot has his hands full and needs the hook, he will call for it, and ECMO 1 will put it down. In this mishap, the ECMO misunderstood the pilot's intentions, thinking he had the aircraft under control. In fact, the pilot was too busy trying to keep on the runway, braking and using nosewheel steering, which required pressing and holding the nosewheel-steering button.

Capt. Kunkle asks another good question: why didn't the crew take it around?-Ed.

You can't spend all your time flying. When you're off duty, at your squadron, or with your unit, *Mech*, *Fathom*, *Ashore*, or *Ground Warrior* can help you survive your workday.



John W. Williams

by LCdr. Mike Barger

I sat in my FA-18, preparing for pinky launch from the CV, thinking about the call sign my CO had given me after I couldn't get airborne on my three previous attempts because of mechanical problems. This time, "Black Cloud" was going flying.

Because Lot IX Hornets have weak heating and cooling systems, I waited for the launch with my canopy cracked open about two inches to let some air into the cockpit. When the taxi director approached to have my jet broken down, I tried closing the canopy before taxiing to the catapult. The canopy wouldn't move.

I cycled the switch, thinking the internal switch had failed, but this problem was not going to keep me from getting airborne.

I waved to my plane captain, and through an unusual series of hand signals, motioned for him to close my canopy with the external switch. He couldn't close it, either.

The yellowshirt was growing impatient for me to commit up or down. I was out of time but still had one option.

I remembered from my FRS training that, if necessary in an emergency, I could raise or lower the canopy using a hand crank in the cockpit. So, with just enough knowledge to be dangerous and under the self-inflicted pressure, I lowered my canopy manually—possibly a first in the community for CV operations.

I thought that the canopy could be completely raised or lowered with the crank, and that the removal of the "canopy" caution from the digital display would indicate the canopy was closed. If the canopy was not closed, I reasoned that on advancing the throttles to military power for the catapult shot, the canopy seal would inflate, forcing the canopy open slightly and thereby producing a "canopy" caution that would warn me of my flawed logic. Varsity plan out of a JV playbook with my whopping 250 hours in type. Nevertheless, I was off to the cat.

As my throttles hit the mil stop and my canopy seal inflated, there wasn't a caution in sight. My quick thinking had salvaged the sortie.

Wipeout complete, I turned on my external lights and braced for the shot. My three-tank Hornet was heavy, so I knew this would be a good kick.

As the jet lurched down the catapult, the acceleration immediately drove my canopy aft that two inches I had cranked it forward just moments before. I grabbed for the canopy switch, fearing that the entire clamshell would blow off. Sixty knots of wind was the published maximum for an open canopy in the FA-18, but in that fleeting moment, I didn't know if two inches constituted "open." I didn't have to wonder long, however, because as I got airborne, the canopy opened vertically about 12 inches. My "60-knot" canopy held fast as I accelerated through 180 knots.

I screamed at departure control that I was declaring an emergency. The wind rushing through the cockpit made it almost impossible to hear anything on the radios, and it also drove my visor onto the bridge of my nose. The air blast pushed my mask—down, breaking its seal with my face and making it hard to breathe. I ducked below the top of the instrument panel and pressed my visor against the left digital display, which was repeating the information from my heads-up display.

I couldn't really hear departure's instructions, but I knew I needed to recover quickly.

I climbed to 1,200 feet, began dumping the better part of my 17,000 pounds of fuel, and started to turn downwind.

I couldn't get any information from departure (mostly because of the wind noise), and I switched to tower frequency hoping the Air Boss might have better gouge for me. His frequency worked well enough to tell me to continue downwind to 15 miles so he could clear the deck for my approach. With my face planted firmly against the left display, I shouted acknowledgement of his instructions.

I was able to slow to about 175 knots—still fairly speedy for a convertible. I wasn't sure how I was going to land the jet with all the wind in my face. When I lifted my head to HUD level and looked outside, I felt excruciating pain on the bridge of my nose. The rush of the wind up and under my visor blinded me. I could actually feel the blast lift my eyelids away from my eyes.

I hoped that as the Hornet got lighter and I slowed to approach speed, the wind would reduce enough to allow a visual approach to the ship.

As I got to about 10 miles behind the ship, it dawned on me to ask for a Mode I automatic carrier approach. If it was going to be tough for me to see the ship, then maybe it would be better to just let the ship bring me home. I knew the LSOs wouldn't let me get into any trouble during the approach, even if I couldn't see the ship. But the ship denied my request for a Mode I because maintenance crews were working on the system. In fact, the ACLS wasn't going to be available at all. What a night for the system to be down.

I was now 15 miles from the ship, and approach told me to turn in and intercept the expected final bearing. Approach control had taken over for the Boss on the same frequency, and I could hear them fairly well. My fuel state was now about 8,000 pounds, but the lighter weight was not making it easier to use the HUD.

At 10 miles, I lowered the gear and flaps and decelerated to my approach speed of about 140 knots. I could raise my head to look through the HUD without as much discomfort but still could not see very well through the wind blast. Once again, I pressed my visor against the left display and flew the next seven miles by the information provided there.

At three miles from the ship, I began my descent, still unable to see with any clarity through the HUD. I flew the ILS approach moving my head back and forth from the left display to the HUD.

Much to my disappointment, at three-quarters of a mile, I couldn't see the carrier, much less the ball or landing-area lights. I called "clara" and continued to fly the approach off the navigational information on the left display.

As I reached the in-close position, the LSOs gave me a "little power" call to slow my rate of descent. I over-responded and powered myself over the wires.

"Bolter, bolter," paddles called.

As I selected military power and touched down past the 4-wire, the canopy slammed shut, giving me my first clear view of the flight deck. It was a pleasant sight for about three seconds before I was airborne again. As I cleared the deck, the canopy popped open and again forced me to fly another convertible approach to the ship.

I was now worried about fuel and my ability to recover. With the canopy open, I couldn't really fly a bingo profile to the divert more than 150 miles away. I also wasn't going to be able to tank because I couldn't see well enough in the wind blast. This pass would have to count.

During the downwind leg of the approach, I requested another Mode I, hoping the system was up but not expecting any

good news. Much to my surprise, the response was positive. The ship turned me in at five miles, locked me up with the ACLS radar and flew me aboard to an OK 2-wire. As with the first pass, the wind made it impossible to see the ship during the approach. The ACLS might have saved my aircraft and my life.

As I taxied clear of the landing area and into my parking spot, my eyes were so dry and red from the wind that I could barely blink. I made one last attempt to move my canopy with the cockpit switch and, sure enough, it opened like a champ.

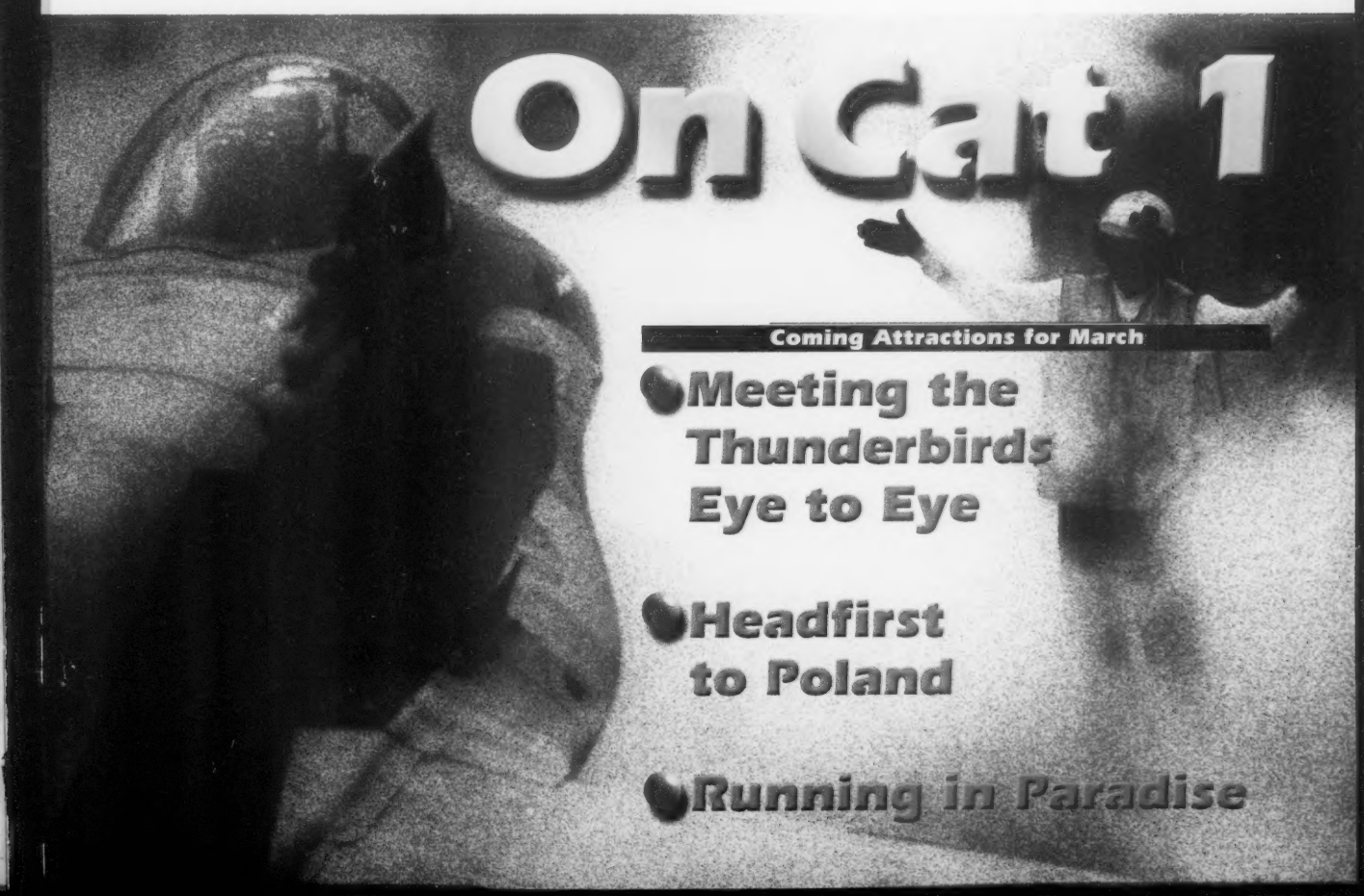
Maintenance determined that a short in the motor had kept the canopy from closing and securing. My experience produced some significant lessons learned. First, it highlighted the axiom that you should never feel pressured to fly a marginal aircraft. Second, even though FA-18 NATOPS suggests that the "canopy" caution will extinguish only when the over-center lock is in place and the canopy is secured, an ad-hoc procedure to get the caution to go away is not good headwork.

Third, I could have reduced the wind blast by jettisoning the canopy and preventing it from acting like a "scoop."

Finally, the LSOs never understood the gravity of the problem. If they had, they would have provided much closer control on my first pass to get me aboard.

There are many unbelievers in the merits of automatic approaches to the CV, but you probably know how I feel.

LCdr. Barger flies with VFA-34.



BROWNSHOES IN ACTION COMIX

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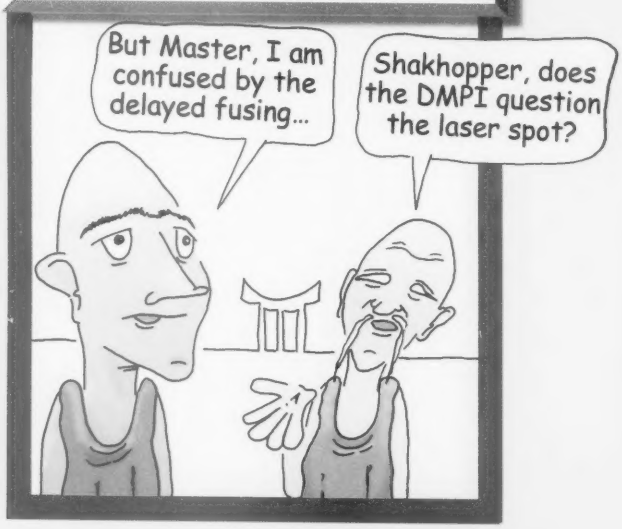

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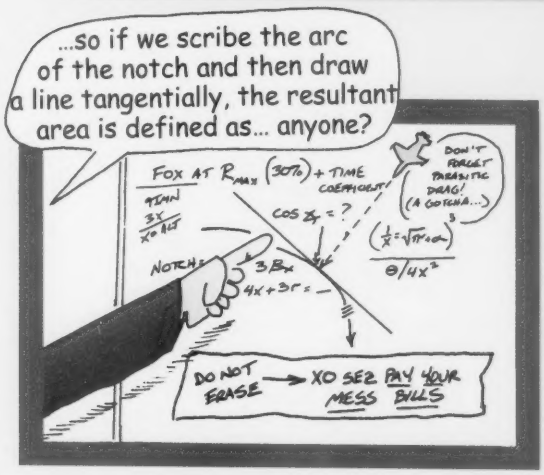
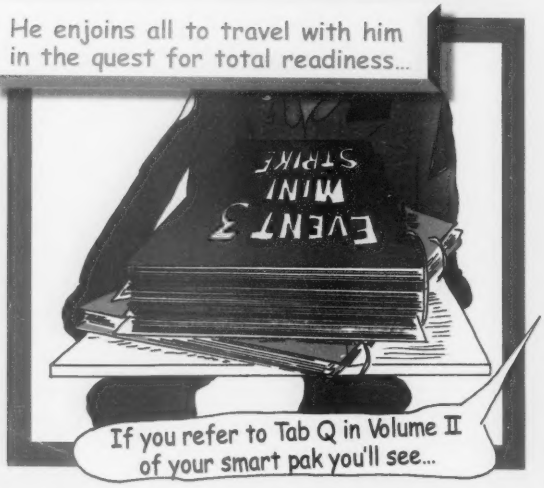
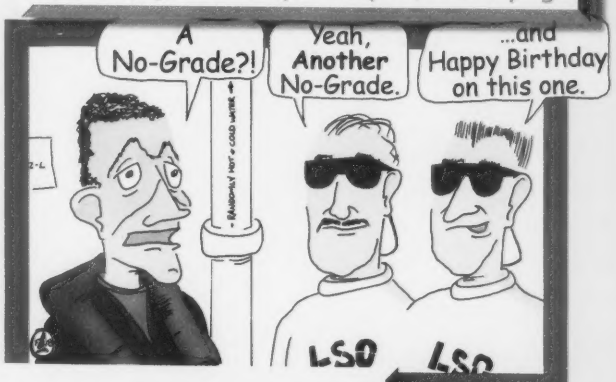

...so if we scribe the arc of the notch and then draw a line tangentially, the resultant area is defined as... anyone?
DON'T FORGET PARASITIC DRAG! (A GOTCHA...)
DO NOT ERASE → XO SEZ PAY YOUR MESS BILLS

He enjoins all to travel with him in the quest for total readiness...



...in all facets of strike warfare: planning, debriefing, FLIR tape analysis, ball flying...



OK, maybe not ball flying.

by Cdr. Ward Carroll